

### **REMARKS**

Claims 1-38 are all the claims presently pending in the application.

It is noted that the claim amendments, if any, are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 1, 4, 5, 7-9, 11-15, 17-19, 21, 23, 25, 27, 29-32, and 34-38 stand rejected under 35 U.S.C. § 103(a) as unpatentable over US Patent Publication No. 2003/0018952 to Roetzheim, et al., further in view of "Estimation of Software Reliability by Stratified Sampling" by Podgurski, et al. Claims 2, 3, 6, 10, 16, 20, 22, 24, 26, 28, and 33 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Roetzheim/Podgurski, further in view of "An Assessment and Comparison of Common Software Cost Estimation Modeling Techniques" by Briand, et al.

These rejections are respectfully traversed in the following discussion.

#### **I. THE CLAIMED INVENTION**

The claimed invention is directed to a method of estimating a cost related to at least one of computer software development, computer software maintenance, and information technology services. A sample of computer code is read in accordance with a sampling technique and a cost for a larger subset of the computer code from the sampling is calculated. At least one of the reading, the sampling, and the calculating is executed on a computer.

As explained beginning at line 4 on page 3 of the specification, estimating costs for modifications to existing software, such as porting, as well as other activities related to existing software such as maintenance, application portfolio management, and legacy transformation of software, typically requires a comprehensive investigation including scanning the entire set of code to look for potential problems. This comprehensive approach can be very expensive and time consuming.

The claimed invention, on the other hand, teaches a novel method to estimate such costs by deriving a cost estimate using a sampling of the code.

## II. THE PRIOR ART REJECTIONS

The Examiner alleges that Roetzheim, when modified by Podgurski, renders obvious the present invention described by claims 1, 4, 5, 7-9, 11-15, 17-19, 21, 23, 25, 27, 29-32, and 34-38, and when further modified by Briand, renders obvious claims 2, 3, 6, 10, 16, 20, 22, 24, 26, 28, and 33.

Applicants respectfully submit that the rejection currently of record fails to meet the Examiner's initial burden of a *prima facie* rejection.

The rejection for claim 1 is typical for the rejection based on Roetzheim/Podgurski. The Examiner concedes that primary reference Roetzheim fails to satisfy the plain meaning claim limitations wherein the estimated cost of a larger subset of computer code is based on using a sampling of software. To overcome this deficiency in Roetzheim, the Examiner relies upon secondary reference Podgurski.

The Examiner considers Podgurski to be analogous to Roetzheim and, according to the Examiner, one of ordinary skill in the art would have been motivated to modify Roetzheim "... to further provide a sampling method of estimating a cost related to computer software development, computer software maintenance, and information technology services in [the] Roetzheim system. The motivation is that stratified sampling approach is computationally feasible, can isolate failures, and can significantly reduce the cost of estimating software reliability. ([Podgurski], Sec. 9, lines 5-8)."

Applicants begin by pointing out that the rejection currently of record for these claims is very unusual because it relies upon primary reference Roetzheim for demonstrating the preamble of the claims only (for all claims) and relies upon secondary reference Podgurski for demonstrating the entirety of the claim limitations.

Applicants submit that this anomaly alone demonstrates that these two references are clearly non-analogous and, therefore, not properly combinable. This non-analogous status is confirmed by reviewing the Abstracts, wherein Roetzheim relates to estimating resource requirements for software development projects, whereas Podgurski relates to estimating reliability of already-developed software.

As explained in MPEP § 2141.01(a): "*In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must be either in the field of the applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the invention was concerned.*"

Applicants submit that primary reference Roetzheim might arguably be considered as analogous to the present invention because it at least suggests estimating cost as related to resources required for software development. However, as the Examiner already recognizes, Roetzheim is based upon an entirely different principle of operation to derive such cost estimates, since it requires a user's inputs relative to a number of parameters and does not suggest in any way to sample computer code, either partially or in its entirety.

Moreover, secondary reference Podgurski is clearly non-analogous to the present invention because it clearly relates to reliability, an entirely different aspect of software from that of estimating costs. Additionally, Podgurski relates to existing software, whereas Roetzheim relates to developing new software.

Therefore, because secondary reference Podgurski is non-analogous, it cannot be properly combined with primary reference Roetzheim.

Applicants further submit that the modification by secondary reference Podgurski would clearly change the principle of operation of primary reference Roetzheim, not only because of the different mechanisms used but also because there are different results being calculated in these two references and because primary reference Roetzheim relies upon user inputs for its inputs, rather than a reading by a computer. Such change in principle of operation is improper under the holding of *In re Ratti*, 270 F.2d 810, 23 USPQ 349 (CCPA 1959), as described in MPEP § 2143.01: "*If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious.*"

Therefore, for at least the two-above-identified deficiencies, Applicants respectfully submits that the rejection currently of record fails to meet the initial burden of a *prima facie* rejection for obviousness. The Examiner relies upon secondary reference Briand for unrelated reasons, so Briand does not overcome these deficiencies.

Hence, turning to the clear language of the claims, in Roetzheim there is no teaching or suggestion of: "... reading a sample of computer code in accordance with a sampling technique; and calculating a cost for a larger subset of the computer code from said sampling, wherein at least one of said reading, said sampling, and said calculating is executed on a computer", as required by independent claim 1. The remaining independent claims have similar language.

Therefore, Applicants submit that all claims are clearly patentable over Roetzheim

since there are elements of the claimed invention that are not taught or suggested by this primary reference, and the Examiner is respectfully requested to withdraw this rejection.

Further, Applicants submit that the Examiner can point to no motivation or suggesting in the references to urge the combination as alleged by the Examiner. Indeed, the Examiner supports the combination by merely basically reciting wording from secondary reference Podgurski: "*Experimental results were reported that suggest this approach is computationally feasible, can isolate failures, and can significantly reduce the cost of estimating software reliability.*" Applicants submit that this above-recited description in the secondary reference does not provide any motivation whatsoever to modify the manual-entry resource estimation tool of Roetzheim that is not directed to software reliability.

### III. FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicant submits that claims 1-38, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Assignee's Deposit Account No. 50-0510.

Respectfully Submitted,



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